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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,243	06/23/2003	Takahiro Uchida	115457	6685

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EXAMINER

TRAN, BINH Q

ART UNIT PAPER NUMBER

3748

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,243

Applicant(s)

UCHIDA, TAKAHIRO

Examiner

BINH Q. TRAN

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-8 and 12 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/24/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: The abstract exceeds 150 words in length.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b)

Art Unit: 3748

only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-3, and 9-11 are rejected under 35 U.S.C. 102 (e) as being anticipated by Shi et al. (Shi) (Patent Number 6,694,243).

Regarding claims 1 and 9, Shi discloses a catalyst degradation determining apparatus that determines whether a catalyst (18) provided in an exhaust passage of an internal combustion engine (12) has degraded, comprising a controller (15), wherein the controller acquires a degradation index value that changes in accordance with a degree of degradation of the catalyst, the controller corrects the degradation index value acquired, based on a factor that affects the degradation index value, so that the degradation index value becomes equal to a post-normalization index value that is a degradation index value acquired when the factor is a predetermined value (e.g. See col. 7, lines 5-67; col. 8, lines 1-12); and the controller determines whether the catalyst has degraded, based on a result of comparison regarding whether the post-normalization index value is greater than a catalyst degradation criterion value (e.g. See col. 8, lines 1-67; col. 9, lines 1-63; Blocks 124-150).

Regarding claims 2 and 10, Shi further discloses that the degradation index value that changes in accordance with the degree of degradation of the catalyst is a maximum oxygen storage amount of the catalyst (e.g. See col. 8, lines 1-67; col. 9, lines 1-63; Blocks 124-150).

Regarding claims 3 and 11, Shi further discloses that the factor is a temperature of the catalyst (e.g. See col. 7, lines 32-67; col. 9, lines 5-63; Blocks 124-150)

Claims 1-3, and 9-11 are rejected under 35 U.S.C. 102 (e) as being anticipated by Hitano et al. (Hitano) (Patent Number 5,966,930).

Art Unit: 3748

Regarding claims 1 and 9, Hitano discloses a catalyst degradation determining apparatus that determines whether a catalyst (13) provided in an exhaust passage of an internal combustion engine (1) has degraded, comprising a controller (5), wherein the controller acquires a degradation index value that changes in accordance with a degree of degradation of the catalyst, the controller corrects the degradation index value acquired, based on a factor that affects the degradation index value, so that the degradation index value becomes equal to a post-normalization index value that is a degradation index value acquired when the factor is a predetermined value (e.g. See col. 13, lines 55-67; col. 14, lines 1-65); and the controller determines whether the catalyst has degraded, based on a result of comparison regarding whether the post-normalization index value is greater than a catalyst degradation criterion value (e.g. See Figs. 19-23; col. 24, lines 18-67; cols. 25-26, lines 1-67).

Regarding claims 2 and 10, Shi further discloses that the degradation index value that changes in accordance with the degree of degradation of the catalyst is a maximum oxygen storage amount of the catalyst (e.g. See Figs. 19-23; col. 24, lines 18-67; cols. 25-26, lines 1-67).

Regarding claims 3 and 11, Shi further discloses that the factor is a temperature of the catalyst (e.g. See col. 79, lines 25-67; col. 10, lines 1-50).

Allowable Subject Matter

Claims 4-8, and 12 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or render obvious the claimed combination including a controller corrects the newly calculated maximum oxygen storage amount by normalizing the same amount so as to reach a

Art Unit: 3748

post-normalization maximum oxygen storage amount that is a maximum oxygen storage amount when the catalyst has a predetermined normalization temperature, based on the characteristic value determined, the normalization temperature, and the calculation period catalyst temperature of the calculation period of the newly calculated maximum oxygen storage amount; the controller determines whether the correction of the newly calculated maximum oxygen storage amount is appropriate; and the controller determines whether the catalyst has degraded based on a result of determination as to whether the post-normalization maximum oxygen storage amount is greater than a catalyst degradation criterion value, when it is determined that the correction of the newly calculated maximum oxygen storage amount is appropriate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Art Unit: 3748

Kakuyama et al. (Patent Number 6622479), Liu (Patent Number 5848528), Tayama et al. (Patent Number 6289673), Naber et al. (Patent Number 5732551), and Kitagawa et al. (Patent Number 5678402) all discloses an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (703) 305-0245. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (703) 308-2623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

BT
June 24, 2004



Binh Tran
Patent Examiner
Art Unit 3748